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# LEADERS ON THE LAND

*A Report of ' ' Cooperative Extension Work in Agriculture and Home Economics in 1939*

**EXTENSION SERVICE  
WASHINGTON, D. C.**

UNITED STATES DEPARTMENT OF AGRICULTURE

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## *A People With a Vision*

PROGRESS is achieved through leaders who envision better ways of life and make their fellow men so conscious of those ideals that together they make their dreams come true. From such visions, extension work was born. Its pioneers dreamed of a sound family farm life for the America of their children and their children's children. The movement they created has kept alive that vision.

Its purpose is still the same as these men conceived it—the development of individual initiative among the men and women who have clung to the soil of America. For true rural progress must be achieved by advancement in the thinking and habits of farm people. It is not sufficient that terraces be built; they must be maintained in the years that follow or they may eventually become a menace rather than a benefit. It is not sufficient that food be canned; it must be served in properly balanced menus if the family health is to be maintained. It is not sufficient that 4-H Clubs be organized, they must interest and inspire rural youth for year after year if their true purpose is to be realized. It is not sufficient that farmers learn more efficient methods of production, they must understand the economic factors that determine profit or loss for agriculture as a whole if their goal of more satisfactory living is to be achieved.

Extension work, constantly inspired by farm people and constantly aiding those farm people to add knowledge and action to that inspiration, is assisting rural America to make today's dreams realities and tomorrow's visions more glorious.

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# LEADERS ON THE LAND

A REPORT OF COOPERATIVE EXTENSION WORK IN  
AGRICULTURE AND HOME ECONOMICS IN 1939



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## **Farming Goes Forward**

Farming is a way of life. Beyond the elevators, the commodity exchanges, the packing plants, and the produce terminals that feed the Nation's farm products into the channels of commerce are families that live on the land—families whose food, clothing, shelter, recreation, education, and health depend upon what the land provides. Family farming is a traditional feature of American agriculture.

That tradition—with its constant goal of improved farm-family living—faced painful new problems as 1939 concluded an eventful agricultural decade. Increasing mechanization of farming, increasing numbers of large commercial farms, declining soil fertility, and reduced demand for farm labor were rapidly increasing the pressure of the population on the land. Reduced foreign markets for farm products caused repeated piling up of crop surpluses. Limited buying power in the hands of city consumers held prices for farm products at low levels.

The farmer saw a ghost—the specter of poverty in the midst of plenty.

More than 1,700,000 farm families have an average income of less than \$500 a year, including all that they grow for themselves. This means about 8½ million persons trying to struggle along on an average income of approximately \$2 a week each.

Six hundred thousand farm families live on land so poor that under present use and organization they have no adequate economic security.

Four hundred thousand farm families live on land of indifferent quality and suffer from insufficient acreage.

The working farm population is now growing at the rate of about 445,000 a year, and the increase is fastest in those very areas which already are poorest and most overcrowded.

Because of increased mechanization of agriculture and reduced foreign markets for farm products, today it is possible for this Nation to meet all the normal requirements of farm production, both foreign and domestic, with 1,600,000 fewer farm workers than were needed 10 years ago.

Yet it appears that agriculture will have to support at least as many people on farms during the next 10 or 15 years as are now living on farms.

Erosion has caused the loss of from one-third to three-fourths of the topsoil from more than 663 million acres of land. This wastage of the earth costs 400 million dollars a year. It also is rapidly reducing future opportunities in agriculture.

Faced with these unpleasant but unavoidable facts, the Nation's agriculture in 1939 increased its efforts to make life more satisfying and more secure for the families on the land.



Ten trends of American agriculture stand out in the records of cooperative extension work for the year. Soil conservation is the headline. Throughout the country, a general realization of the dangers of continued erosion and soil depletion and a growing determination to do something about the problem were reflected in a changed pattern of farm operations.

Great increase  
in conservation

Seedings of such soil-conserving crops as alfalfa, clovers, grasses, and winter legumes showed substantial increases. A shift from traditional straight-row farming to the curving, level lines of contour farming was evident. Planting of cover crops to protect and tie down the shifting soil of the windswept Great Plains gained popularity. Planting of trees—in windbreaks, shelterbelts, and erosion control areas—exceeded all previous records.

With payments under the Nation-wide agricultural conservation program and the impressive demonstrations of the Soil Conservation Service adding impetus to the conservation teachings which extension work has carried on for years, the Nation's agriculture achieved progress toward wiser use of its basic resource—the land.

Increased attention to soil conservation brought larger acreages of pasture and forage crops. Farm animals furnish virtually the only profitable use for hay, pasture, and fodder crops, and this fact brought the livestock industry and its leaders increasing responsibility in connection with major agricultural planning and conservation activities.

More attention  
to livestock

Modified feeding and grazing practices were developed in the extension animal husbandry programs of many States to meet the new economy of increased pasture and forage. Farm-management specialists and agronomists played an important part in assisting the farmers of the Nation to fit a changing pattern. Dairy men were aided in adapting their feeding systems in line with the increased acreages of high-quality legume hays put up and the improved pastures available. Use of grass and legume silage showed a marked increase. Decreased purchases of concentrate feeds and a reduced percentage of protein in the grain ration fed dairy cows also resulted.

Good seed is a vital factor in getting more land into grass and legumes and out of soil-depleting crops. In fact, almost all phases of the extension agronomy program center around and are dependent upon it.

Seed improvement  
shows progress

Definite efforts to develop better seed supplies were undertaken through organized seed-improvement programs in 38 States in 1939. In Oregon, work was begun with the cooperation of the A. A. A. to subsidize the production of winter legume seed that moves into the Southern States, for the winter legume-seed program in the South is one of the vital factors in soil conservation and improvement.

Emphasis on seed improvement also resulted from the passage of the new Federal Seed Act, which provides for the safeguarding of the interstate movement of certified and registered seed, beginning in 1940, and places definite responsibility on State seed-improvement associations. Conducting demonstrations of the value of new and improved crop varieties, stressing their adaptability, yields, quality, and disease and insect resistance, continued to be an important phase of extension work.



Growing determination to remedy past mistakes in land use found a practical outlet through local and State land use planning committees. Approximately 70,000 farmers in 1,120 counties formally took part in land use planning work in 1939 as members of local committees. Approximately 200,000 other farmers also took part in planning activities. Extension workers contributed heavily to the development and guidance of this planning work.

Planning activities produced practical and definite results. Rather than being confined to mere outlining of desirable but unattainable goals, the planning committees laid concrete proposals before local and national agencies that could take immediate steps toward making the plans become realities. During the last 6 months of 1939 there were more than 700 recorded instances of action of one kind or another growing out of the land use planning program in 445 counties in 38 States.

Reinforced by the movement toward greater conservation of soil and wiser use of land, there was a noticeable return to the habits of thrift in home production and storage of food that characterized pioneer America. Feeling the continued pinch of low farm income and realizing the need for better diets, farm families turned with renewed vigor to the age-old tasks of gardening, canning, and butchering. Scientific food plans, based upon the dietary needs of the family, were widely adopted. Giving a modern twist to the ancient habits of family food storage was a great extension of freezer-locker facilities.

These locker plants have shown a phenomenal growth as farm families have endeavored to protect their dinner tables from the inadequacy of cash income. In 1939 more than 2,200 locker plants, most of them less than 5 years old, were operating in 40 States. Extension specialists in nutrition and animal husbandry held meetings with plant managers and with farm people to assist in developing the most desirable use of these plants in preserving meats, fruits, and vegetables—rich in vitamins and minerals—for use in those seasons when farm diets are likely to be monotonous and lacking in these protective foods.

Increased numbers of farm families in 1939 adopted the practice of planning ahead to obtain the food supply needed for good nutrition throughout the year. Likewise, a growing number of homemakers kept records of amounts and cost of foods purchased, and others also recorded the amount and value of foods used from the farm. Raising a family poultry flock to supply a more adequate diet was encouraged by popularizing home-made equipment and simple flock-management systems.

The coming of electricity to the farm home is listed in more than half the county extension workers' reports as one of the year's outstanding achievements in better housing. Cooperating with the Rural Electrification Administration and commercial agencies, these extension workers made available to farm families knowledge on how to select lighting fixtures, where outlets should be placed, and similar problems, and helped families with their financial plans for electricity.

Farmers develop  
land use plans

Return to home  
food planning

Electricity great  
housing improve-  
ment.



Consumer education meetings by the hundred helped farm families get their money's worth when buying the new refrigerator, electric iron, toaster, or radio.

The attention to electricity supplemented routine home-improvement teachings, such as furniture refinishing, furniture arrangement, planning of storage space for the work center, and similar topics.

State extension services continued to assist farm families in drawing plans for new homes. Arkansas, which has conducted "better homes" campaigns for 15 years, centered its 1939 campaign on low-cost housing and the use of home materials and labor by the farm family. More than 2,000 new dwellings were constructed in the State at a saving of \$648,000 for labor and materials, and more than 3,000 homes were remodeled.

Young people constitute the most important product of American farms. Fifty-one percent of the Nation's children are country born and raised. Throughout its history, extension work has contributed to the upbuilding of this human resource—the Nation's farm youth. More than 8 million boys and girls have taken part in the 4-H Club program since it became Nation-wide in 1914. In recent years, extension programs have devoted increased attention to the problems of older rural youth, the problems of young people beyond 4-H Club age who are seeking a livelihood at a time when opportunities for employment in the cities are limited and agriculture does not need increased numbers of farmers.

Every year at least 200,000 young men become farm operators on their own account for the first time and an equal number of young women become the wives of farmers. Every year more than a million farm people, mostly under 30 years of age, leave the farm and move to towns and cities. Many of them later return. To meet the problems of this group more effectively, extension services in many States have sponsored special clubs for young people above 4-H Club age, special short courses of training in fields of interest to this group, studies to determine what social and economic topics are of most concern to these maturing young people, and similar activities. In 1939 there were 2,073 extension-organized clubs for rural young men and women over 16 with 71,700 members. Programs of these organizations showed a definite trend toward more study of timely and pertinent economic information along with recreation and social activities.

Progress was recorded in steps to benefit farm children below 4-H Club age. Extension workers and local nutrition leaders in every State endeavored to enroll more mothers of young children in community or special home demonstration groups. They worked with parent-teacher associations and cooperated with nurses and social workers and others.

Several States sponsored or took part in well-child clinics. Arkansas increased the number of better-babies clubs, developed some 10 years ago as auxiliaries of local home demonstration clubs, and Alabama organized such clubs for the first time.

A growing demand from rural people for help in child development and family relationship problems also was reflected in reports of extension workers. To meet this need, training on the subject was given extension workers in many areas. Several States employed specialists in this field.



In 1939, as in almost every year since 1914, the Nation found need for fast, efficient, widespread action to meet agricultural emergencies.

**Extension meets farm emergencies.** Extreme drought in the Great Plains and many sections of the West; war abroad and uncertainties as to the price outlook for many commodities; the partial collapse of the tobacco markets; and other similar events forced farmers in many areas to make adjustments quickly in light of the best information that could be marshaled. The Extension Service, with a representative on the ground in all areas in close touch with farm people, and with State and national organizations, was able to move rapidly into action in these emergencies—as it did in the days of the World War.

Such response to emergency situations has been called for almost every year since extension work was founded. War, droughts, floods, hurricanes, the boll weevil, grasshoppers, and similar plagues have required extension people to cooperate with relief agencies in rehabilitating stranded families and feeding undernourished children; to help with conserving food, feed, and equipment; to give counsel on cheap yet adequate diets; and to aid in the maintenance of morale through increased recreation, social life, emergency employment, handicraft work, and like benefits. Extension efficiency in meeting such emergencies has increased through the years. Larger staffs of State and county workers have facilitated the problem of spreading information to farm people throughout the United States quickly and accurately and have made it possible to obtain prompt, complete, and accurate reports of conditions in the Nation's agricultural areas whenever necessary. County agricultural agents are now at work in all counties of agricultural importance, while only three-fourths of the counties had agents at the height of the last war.

Twenty-five million acres of crops were saved by a grasshopper control campaign on which extension entomologists in 14 Western States spent much of their time in 1939. Using 154,000 tons of poisoned bait provided by the Federal Government, more than 235,000 farmers protected their land from grasshopper ravages. Estimates by county agents and extension entomologists indicate that each dollar spent for grasshopper control saved \$52 worth of crops.

**Each dollar spent saves \$52.** The grasshopper campaign illustrates the fact that although newer responsibilities have added to the duties of extension workers in recent years, their first and fundamental task of assisting farm people to farm more efficiently has not been neglected. Year after year, demonstrations of ways to improve crop yields, speed livestock gains, control insects and diseases that cause crop losses, and improve management methods have returned dividends far in excess of the cost of extension work.

Local appropriations to support extension work showed significant increases in 1939, indicating that the cooperative extension program—after 25 years of service to the rural United States—still is increasing in popularity among the people whom it serves.

**Build for still greater service.** Approximately 44 percent of the total cost of extension work was met through State and local funds. Of a total appropriation of \$33,000,000 for all cooperative extension work, about \$18,000,000



came from Federal grants to the States through the United States Department of Agriculture, about \$6,660,000 from State funds, about \$6,845,000 from county appropriations, and about \$941,000 from farm organizations. The cost of the Federal Extension office was about \$800,000. Nearly 4,600,000 farm families were influenced by some phase of the Extension Service program in 1939. Every part of farm life and every type of farm family was covered in that program.

The extension organization, consisting of almost 9,000 employees, has one or more workers in every important agricultural county in the United States, Alaska, Hawaii, and Puerto Rico, supported by a corps of subject-matter specialists, administrative officers, and supervisors located in the Department of Agriculture and at each of the land-grant colleges. There were 2,932 county agricultural agents and 979 assistant agents on June 30, 1939. Their work was supervised by 167 district agents and 24 county agent leaders. In addition, there were 1,792 county home demonstration agents and 168 assistants; 285 county 4-H Club agents and 56 assistants; 256 Negro agricultural agents and 210 Negro home demonstration agents; and 2 Negro county 4-H Club agents. The work of this total county personnel of 6,680 was reinforced by a corps of 1,551 agricultural and home economics specialists.

The work of these members of the extension staff was supplemented by the activity of more than 600,000 volunteer leaders—farm men and women whose interest in improved farm living is so great that they donate a portion of their time each year to spreading information among their neighbors.

To meet more effectively its responsibilities of assisting farm people in understanding new Federal and State programs for agricultural improvement, the Federal office of the Extension Service was reorganized on February 1, 1939. Functions and activities which have in recent years assumed primary importance in the work of the service were realigned under five main heads: Office of the Director; Division of Business Administration, M. M. Thayer, Chief; Division of Field Coordination, H. W. Hochbaum, Chief; Division of Subject Matter, J. W. Boatman, Chief; and Division of Extension Information, Reuben Brigham, Acting Chief. The reorganization served to assist State and county workers in providing farm people with a rapid service of information about national farm programs and also encouraged greater effectiveness and accomplishment in older lines of extension work.

## Science for the Farmer

Characteristic of the American farmer is his continual search for new methods of husbandry that will increase his income from the land.

Constant quest for efficiency. New machines, new crops, new tillage methods that reduce labor, cut production costs, or eliminate hazards have been quickly adopted whenever discovered. The steel plow and the reaper swept across the country, displacing methods that were centuries old. The tractor is rapidly replacing the horse, and the combine harvester-thresher is outmoding the threshing machine and the binder.

This readiness to adopt new methods has brought tremendous increases in the producing power of the farm worker. One estimate is that from 1870 to 1930 the average output per agricultural worker in



the United States increased about 140 percent. Another estimate indicates that the production per agricultural worker increased about 20 percent during the 20 years from 1919 through 1938.

Throughout its history, extension work has aided the quest for efficiency by bringing farmers the latest information developed through scientific tests at agricultural experiment stations. That phase of extension work continued to be of tremendous importance in 1939, with increased emphasis being given the economic and social aspects of agricultural advancement. Particular attention was devoted to informing farm people of the services available through the government "action" programs inaugurated in recent years and to guiding farm people in using these programs to achieve permanent agricultural improvement. These new tools for achieving long-standing objectives have given the Nation's farm families opportunities for important progress.

Extension aids  
with new ideas.

Farmers' accomplishments in adoption of measures to reduce soil-erosion damage and safeguard soil fertility exceeded all previous records in 1939, stimulated by programs of the Agricultural Adjustment Administration and the Soil Conservation Service. Contour farming was practiced by 230,881 farmers on 9,957,600 acres, according to county agricultural agents, an increase of nearly 50 percent above the 1938 acreage. More than 3,000,000 acres of land were both terraced and contour farmed. Seedings of legumes and grasses were increased, and considerable acreages of land unsuited to cultivation were retired to grass or trees. One hundred fifty-six soil-conservation districts had been set up in 25 States by the end of the year to aid in united community action for land protection.

Save soil and  
water.

Extension workers in all States continued to promote soil-conservation activities through meetings, demonstrations, news articles, and circular letters, as well as during countless farm visits and office calls. Of especial importance was the time devoted to familiarizing farm people with the opportunities for farm improvement available under the programs of the Agricultural Adjustment Administration and the Soil Conservation Service. Throughout the Nation, county agents and extension specialists inspired farm people to use these "action" programs in ways that would be of lasting benefit to the land.

State examples of notable progress in soil improvement as a result of extension activities are numerous. Approximately 3½ million tons of lime materials were made available to Wisconsin farmers during the last 5 years through the efforts of county extension agents and specialists of the College of Agriculture of the University of Wisconsin. In 1939 the output of agricultural lime was stimulated through the establishment of W. P. A. lime-grinding projects in cooperation with county extension service organizations. It is estimated that nearly 6 million acres of acid soils in that State need the application of lime.

In Greeley County, Kans., practicing of strip cropping and cover cropping has decreased the acreage subject to wind erosion from 270,000 acres in 1936-37 to less than 5,000 acres in 1939. Under a program that had the united support of the local extension organization, the county A. A. A. committee, and the county land use planning committee, the acreage of strip cropping to control wind erosion



increased from 30,000 in 1936 to 150,000 in 1939, summer fallow increased from 15,000 to 75,000 acres, contour farming from 6,250 to 30,000 acres, pasture contour furrowing from 480 to 3,100 acres, and terracing from 80 to 1,050 acres. Wheat seedings decreased, and row crop acreages increased. Livestock was brought into the county as farmers turned from one-crop wheat farming to diversified agriculture. Sheep increased from 580 head in 1936 to 3,357 in 1939. Cattle increased from 1,994 to 3,165; hogs from 182 to 382; poultry from 6,780 to 9,212. In addition, large numbers of stock were brought into the county for wintering. Deposits of the local bank reflect the effect of this trend toward diversified agriculture. Deposits on June 30, 1935, were \$147,504. Each succeeding year recorded an increase. Deposits on June 30, 1939, were \$200,832.

In Missouri, the extension service gave organized leadership training in all phases of soil conservation to 700 men in 37 counties in 1939. These men will provide complete soil conservation demonstrations, assist their neighbors with the technical features of building terraces, contouring, and gully control, and will organize lime-crushing programs and serve as soil conservation leaders for 4-H clubs. The acreage of Missouri land farmed on the contour increased 100 percent during 1939. The State's legume acreage increased from approximately 2½ million acres in 1930 to nearly 7 million acres in 1939. The original extension goal of placing 25 percent of the State's cropland in legumes already has been exceeded, and the present goal is for one-half of the crop acreage as well as much of the pasture land to include legumes.

The lespedeza project instituted by the Kentucky extension service a decade ago covered about 7 million acres in 1939, and the beneficial presence of this soil-improving crop was a noticeable feature of the landscape.

The acreage of crested wheatgrass seeded on wheat lands in Oregon increased by 40,000 acres during 1939, bringing the total for the State—largely in wheat-producing counties—to 140,000 acres. More than one-third of the wheat land of the State was devoted to trashy summer fallow in 1939, a practice which is reducing the soil losses from wind and water erosion that formerly resulted from clean summer fallow.

In 661 counties, mainly in the West and the South, extension agents aided farmers to improve their irrigation practices. Farmers in more than 1,000 counties were assisted in the drainage of 1 million acres of land.

Tremendous losses have been suffered by the Nation as a result of unwise use of land. Erosion has destroyed valuable topsoil. Fire and faulty management have ruined vast forest tracts. Overgrazing and grazing at the wrong seasons have weakened the stand of grass on extension range areas. Families have suffered as a result. Poor schools, poor roads, poor diets, and lowered standards of living have followed exploitation of natural resources.

Extension workers have long been conducting educational programs directing the attention of individual farmers and the general public to these consequences of faulty land use and have been sponsoring measures to correct them. Land-use tours, land-use exhibits at public gatherings, addresses at public meetings, printed bulletins, and news

Lay plans for  
wise land use.



articles have been used to focus interest on the problem and inspire action to correct it. Local group discussions have been held with farmers taking part to appraise the problems of their local areas, the adjustments needed, the ways in which these adjustments might be speeded up with the least economic and social loss, and the probable effects upon farm people living in distressed areas. Work has been carried on with public officials regarding the proper handling of natural resources under their administration.

Such educational activities were given further impetus by extension workers in 1939 through their participation in land-use planning work sponsored jointly by the Department of Agriculture and the land-grant colleges. Formally organized planning committees functioned in 1,120 counties during the year. Approximately 70,000 farmers were members of these committees, and 200,000 other farmers took part in planning activities. Rural women took an active part in land use planning in Vermont, Utah, Oregon, Delaware, Texas, Louisiana, and several other States.

Community, county, and State committees of farm men and women were organized. These committees—after they had mapped local land-use situations and studied land-use needs and possible readjustments—in cooperation with representatives of the State agricultural colleges and the Department of Agriculture, made recommendations for the correlation and localization of the national programs in terms of land use and in types of farming which can relieve local problems. This planning involves not only the determination of adjustments significant for the individual farmer but also policies of public importance, such as the land use zoning or land classification, which as carried on in Wisconsin and New York, has resulted in the withdrawal of huge acreages from farming.

Land use planning in 1939 progressed beyond the stage of theory and discussion. The groundwork was laid for translating the recommendations of farmer committees into specific action. Teton County, Mont., provides an example of the widely varied forms of action that can be taken as a result of farmer-drawn land use plans.

One of the major problems mapped by the Teton County land use planning committee was the designation of 20,000 acres of plow land that was unsuitable for crops and should be used for grazing. As a result of the committee's recommendation that this land should be returned to grass, steps for accomplishing a part of the shift in 1940 were agreed upon by several Federal, State, and local agencies concerned with land use in that area.

The county A. A. A. committee agreed to encourage retiring low-grade lands from cultivation and reseeding them to grass; not to allow any low-grade sod lands to come into the A. A. A. program as cropland; to make an annual report to the county assessor of low-grade sod lands broken up during the year; to place emphasis on deferred grazing under the range program; and to use land classification data as a guide in determining productivity indexes.

The Farm Security Administration agreed not to make loans for the purpose of cropping low-grade plow and grazing lands; to attempt to get such lands into their recommended uses wherever controlled by Farm Security Administration clients; to assist in increasing the size of farming units that are definitely too small; and to assist in organizing livestock units in the poor areas of the county.



The Farm Credit Administration agreed to make a special effort in Teton County to assist in increasing the size of farming units now definitely too small; and to give careful consideration to the productivity of lands before extending loans.

The State land department agreed to discourage the breaking up of low-grade sod and abandoned farm lands under its control; to endeavor to get its low-grade farm lands back to grass to be used solely for grazing purposes; and to encourage reseeding by charging a lower rental for such lands if the renter reseeded them to grass.

Teton County officials agreed to complete reclassification of lands and to check early work for assessment purposes to correlate it with the latest information; to assess at a higher rate any low-grade lands which are being cultivated or which are broken up for cropping purposes; to give a grazing classification to low-grade plow lands that are now in sod or are abandoned, and to assess them accordingly; to make every effort to correct misuse of low-grade county-owned lands; and to start in 1940 to study further the relation of land values to productivity so as to improve the tax system.

The county extension agent agreed to prepare a program to assist in obtaining the recommended adjustments in land use and to place special emphasis upon informing nonresident landowners regarding the land classification and planning work of the county so that they may be better informed as to the values and best uses of lands under their control.

Similar coordinated campaigns of action were developed to carry out other recommendations of the land-use planning committee, dealing with water utilization and development, erosion control, weed control, rodent and insect control, and range management.

In Bowman County, N. Dak., where close cooperation in the land use planning program has been given by the county governing board, the county government actually has realized direct revenue through adjustments in land use put into effect. State legislation permits the county government to lease land taken for taxes. Designations of grazing and agricultural land made by the local land use committee have guided Bowman County to the extent that revenue from leases is being realized on land that for many years had returned no tax income. At the same time, land unfit for agricultural crop production is being kept in grass, and ranchers are now able to stabilize their operations. Adjustment of land use as a basis for sound agriculture is the primary program of the North Dakota Extension Service.

Ohio stressed land use planning through the medium of 228 individual farm demonstrations in 36 counties. After an intensive study of each farm, a 5-year plan was developed by means of which the farmer can attain a "productivity balance" through shifts in the cropping pattern, livestock production, labor power, equipment, and storage facilities so as to achieve a maximum net-income-producing capacity and a more satisfying life.

The need for larger supplies of good seed is the Nation's number one agronomy problem. In 1939, there were 38 States with organized seed-improvement programs. Extension crops specialists and county agents assisted in many States with the organization of the inspection and certification of seed supplies, gave advice on seed production and handling methods,

Seed improvement  
progress shown.



and consulted with farmers concerning crop varieties for which more satisfactory seed supplies were most needed.

An example of the results accomplished is provided by the Oregon small-seed industry, an extension project of 10 years' standing which continued to expand in 1939. A primary purpose of the program is to shift from production of such bulky commodities as wheat and small grains to products of concentrated value which can stand the high costs of shipping long distances. Income to Oregon farmers from production of small seed in 1939 approximated 6 million dollars, nearly 6 percent of the State's annual income, compared with only \$200,000 a few years ago. New kinds of seed, developed by agricultural research and carried into production on farms in the State by the Extension Service, played an important part in this development. Chewing's fescue, alfalfa, Alsike clover, Ladino clover, and Austrian field peas were among the kinds of seed showing large increases in 1939.

The one-variety cotton program continued to expand in the Southern States, proving of great value in enabling farmers to get a good price for their improved cotton. Approximately 13,000 Louisiana farmers, who produced about 150,000 bales of cotton, were members of 125 one-variety cotton community organizations during 1939. During the last 10 years, educational work among cotton growers of the State has reduced the number of cotton varieties grown from more than 100 to about 10. In 1939 approximately 85 percent of the cotton acreage of the State was of only one, pure variety.

In Texas, 415 one-variety cotton community associations were in operation in 1939 as contrasted with only 62 in 1937. These associations included more than 27,000 farmers and nearly a million acres of cotton, almost 11 percent of the total cotton acreage of the State. New Mexico had 23 one-variety cotton organizations, including nearly 91,000 acres—approximately 92 percent of the cotton acreage of the State.

More than 4,200 cotton gin stands were put in improved mechanical condition through extension assistance and advice. Conditioning of cotton in dryers was greatly increased, an important step in improving ginning methods.

The ever-present problem of reducing losses from plant diseases that lower yields and quality of farm crops was given attention by extension agents and specialists in all States. Assistance was given in identifying plant troubles and control recommendations were demonstrated and publicized.

Seed treatment benefited cotton growers of North Carolina to the extent of more than \$5,500,000 in 1939. In a total of 191 cottonseed-treatment demonstrations conducted during the 1936-39 seasons by the North Carolina Extension Service, the value of lint and seed from the treated seed averaged \$9.82 per acre more than the value of lint and seed from untreated seed. The acreage of cotton planted with treated seed increased from 7,000 in 1935 to 600,000 acres in 1939. Results from 19 cottonseed-treatment demonstrations in Virginia showed an increase of 28.2 percent in the yield per acre, amounting to an increase of \$11.95 per acre in the value of cotton. It is conservatively estimated that about 90 percent of the cotton growers in that State practiced seed treatment in 1939.



The custom cleaning and treating of seed wheat and other seed grain progressed during the year in Indiana, Illinois, California, Pennsylvania, and other States. In Indiana, 40 portable cleaning and treating outfits cleaned 413,961 bushels, or 17.7 percent of the seed wheat sown in the State, and treated 148,659 bushels. In Illinois, 24 such portable machines handled approximately 300,000 bushels of seed wheat in the fall of 1939 in addition to more than 100,000 bushels of oats and barley cleaned in the spring. Reports from farmers substantiated experimental results which have shown that treating seed not only increases yields but also improves the quality of the grain.

The development and distribution of new and improved disease-resistant varieties of cereals in recent years has made small-grain production a less hazardous business. Thatcher wheat provides an example. Spring wheat in Minnesota and the Dakotas has suffered enormous periodic losses from stem rust in years past. Thatcher, a rust-resistant variety, was developed in 1934. By 1939 it had become so widely used that 42 percent of the spring wheat acreage was sown with it, 5,524,631 acres in all. Other rust-resistant spring wheats also gained in popularity.

In Kansas, Oklahoma, and parts of Texas, seedings of the rust-resistant winter wheat, Tenmarq, increased from less than 200,000 acres in 1934 to more than 3,500,000 acres in 1939.

The introduction and spread of such resistant varieties as Rex, Hymar, and Oro has contributed greatly to the remarkable decrease in losses from smut or bunt in the Pacific Northwest. About half a million acres were seeded with Rex and Hymar in 1939. Neither of these wheats was grown 5 years earlier.

The acreage of smut-resistant and rust-resistant varieties of oats also has increased rapidly in recent years.

Extension meetings, demonstrations, and bulletins have been of great importance in informing grain growers of these new varieties.

Control of orchard and vegetable diseases showed marked results in 1939. In Pennsylvania, apple spraying increased yields from 6½ bushels of unmarketable fruit on unsprayed trees to an average of 21 bushels of high-quality fruit on sprayed trees. Tomato growers in four counties were assisted in producing 5,500,000 tomato plants that were entirely free from collar rot, whereas nearly one-fourth of the plants from other sources were infected with this disease. Formaldehyde seed treatment of potatoes reduced scab from 23 to 12 percent and increased yields 25 bushels an acre. Eighteen result demonstrations on potato spraying showed a gain of 92 bushels an acre from spraying. The 5-year-average gain from spraying in Pennsylvania is 101 bushels an acre, and the average cost of spraying has been 15 to 16 cents a bushel.

The development of the certified seed potato business in Minnesota has been a direct result of extension educational work on potato disease control. Approximately 9,900 acres of potatoes met the required standards in 1939, producing 1,350,000 bushels of certified seed which sold on the average for 25 cents per 100 pounds more than the same grade of table stock. Three thousand acres of foundation stock was produced, which should bring an extra premium.

Demonstration of recently developed methods of controlling blue mold of tobacco was a major project in most tobacco States. In



North Carolina, the results of 60 demonstrations showed that about 10,000 more plants were pulled from 100 square yards of treated bed than from the same area of untreated bed.

Most outstanding among the insect-control accomplishments of 1939 was the grasshopper-control program administered by the Bureau of Entomology and Plant Quarantine. Extension entomologists in 14 States spent much of their time on this program, in which 25,000,000 areas of crops were saved by the application of 154,000 tons of poisoned bait furnished by the Federal Government. Farmers also were assisted in protecting their crops from numerous other perennial insect pests, including blister beetles, wireworms, cutworms, white grubs, hessian fly, chinch bugs, cotton boll weevil, and fleahoppers.

South Carolina farmers demonstrated that higher yields of cotton can be produced even under conditions favorable for the boll weevil. Although heavy initial emergence was reported at the Pee Dee station in late May and weather conditions through the summer were more favorable for weevil damage than usual, nevertheless the State's yield averaged 342 pounds of lint cotton to the acre—one of the largest yields per acre in its history. One practice which contributed to this high yield was widespread early poisoning for boll weevil. County agents' reports show that 1,105,596 gallons of molasses were used by farmers as an ingredient in a recommended poisoned bait mixture—almost enough material to make two applications of early poison to one-half the cotton planted in the State.

Control of orchard insects—always a factor of major importance in the commercial fruit-producing areas—likewise received attention. In Pennsylvania, where the codling moth situation is not so serious as in some sections, growers who followed the advice of the extension entomologists produced 31.6 percent more clean fruit than those who did not spray.

In the Corn Belt and the southern Wheat Belt, extension entomologists advised farmers concerning control of insects in stored grain.

A large increase in farm storage of grain in these areas has resulted from the Government ever-normal granary program of loans on wheat and corn. Lending agencies and local A. A. A. committees united with extension workers in encouraging prompt and effective fumigation of all stored grain threatened by insect damage. The value of their efforts is indicated by the relatively light damage to grain by insects despite the large amount of farm-stored grain and the favorable conditions for insect breeding which prevailed.

Farmers in 1939 showed a greater concern about burned and depleted woodlands, reforestation of idle lands, and marketing of timber products. As a result, there were substantial increases in the number of State extension forestry specialists employed and the number of States cooperating in the extension forestry program. According to county agricultural agents, educational work relating to farm forests was conducted in 2,164 of the 3,070 counties in the Nation.

County agents and extension foresters cooperated in the distribution of trees to farmers and conducted demonstrations to show how to care for and plant young trees. Records of the Forest Service



show that farm distribution of planting stock in 1939 by cooperating States totaled approximately 63 million trees. Most of these were used for erosion control, for production of fence posts, pulpwood, saw timber, and naval stores, and for shelterbelt protection for farmsteads and field crops. Extension records for the year indicate that 31,985 farmers were assisted in planting windbreaks and shelterbelts and 25,906 were aided in planting trees for erosion control. New York and Georgia were among the leading States in farm forest-tree planting.

Approximately 55,000 acres were planted to trees under the provisions of the agricultural conservation program, which has stimulated interest in retiring idle and low-grade farm lands to trees. Extension foresters conducted special training work for A. A. A. county committeemen in many States to assist them in acquainting farmers with the use of the tree-planting and tree-maintenance provisions of the program.

During the year 36,224 farmers made improved thinning and weedings in cooperation with extension agents, and 41,384 practiced selection cutting, thus increasing farm income through better woodland management.

Forest-fire prevention, marketing of farm forest products, improved practices in production of naval stores, and practices for production of higher quality maple sugar and sirup were among the other forestry topics covered in the extension program. New emphasis was given utilization of farm-produced timber for construction of buildings through such work as the "home-made homes" project carried out by the Arkansas Extension Service and cooperative saw-mill projects in Texas.

Efforts to improve production methods and income from farm animals acquired new importance in 1939 with the growing realization among agricultural leaders that the livestock industry holds a key to progress in land use planning. Farm animals furnish the market for most of the corn, hay, barley, oats, and grain sorghums produced in the Nation, as well as providing the only profitable use for about 1½ billion acres of pasture and range land. Increased acreages of soil-conserving crops, such as grasses and legumes, resulting from the Nation-wide emphasis on conservation of soil resources, depend upon livestock for successful utilization. For that reason, extension workers in 1939 devoted much time to the interpretation of planning programs in terms of livestock production practices and enlisted the aid of animal husbandry leaders in the organization and operation of major project activities.

The Nebraska pasture-forage-livestock program provides an example of the coordination thus accomplished. This program, which has been carried on for 5 years, emphasizes these eight objectives: Maintaining proper livestock-forage balance; restoring drought-injured grasslands; returning unproductive cropland to grass; increasing the acreage of soil-building crops; producing heavy yields of high quality roughages; utilizing forage crops profitably; building up feed reserves; and encouraging livestock production on rented farms. Through this program, the use of sorghums for fodder, ensilage, and grain has been popularized to the extent that approximately 2 million acres were planted in 1939 as compared to a normal of about 200,000 acres.

Livestock important in land use planning.



Sixteen hundred farmers cooperated in the program in 1939, and 9,004 people interested in livestock attended the 28 meetings held.

During 1939, extension workers in all sections of the country gave special attention to the problem of the most efficient utilization of the

greater production of forage resulting from increased interest in soil conservation. Modified feeding and grazing practices to meet the new economy were incorporated in many programs of work. An example is the feeding of whole alfalfa hay to hogs, a practice which is becoming increasingly popular on Illinois farms. Farmers of this State also demonstrated methods for grazing cattle on land withdrawn from production of cash crops under the A. A. A. program. A Pike County demonstrator, for example, used oats and sweetclover for pasturing yearling steers getting a full feed of shelled corn and soybean meal.

Tuberculosis of cattle has been practically eliminated from the continental United States, with the exception of five California counties, and from Puerto Rico and the Virgin Islands.

Guard farm animal health Only two relatively small areas in Texas and in Florida harbor cattle fever ticks. More than 11 million cattle are under supervision in the national program of Bang's disease eradication, and results indicate that rapid progress may be made in the control and eradication of this disease within the next 10 years if present financial support and cooperation are continued.

As a result of vigorous control measures, carcasses sterilized and condemned on account of tuberculosis in hogs slaughtered under Federal inspection in the United States decreased from 0.41 percent in 1917 to 0.06 percent in 1939. The incidence of tuberculosis among breeding cattle tested decreased from 3.2 percent in 1917 to 0.5 percent in 1939, and the percentage of the cattle slaughtered under Federal inspection that were sterilized and condemned for tuberculosis decreased from 0.53 percent in 1917 to 0.03 percent in 1939. Human tuberculosis of animal origin has been significantly reduced as a result. The human death rate from respiratory tuberculosis was 124.6 per 100,000 population in 1917. It had dropped to 48.9 per 100,000 population in 1938, and the death rate from other forms of tuberculosis decreased from 22.5 to 4.3 deaths per 100,000 during the same period.

In all these animal health programs, extension workers have taken an important part. In cooperation with the Bureau of Animal Industry and State agencies, they have aroused farmer interest in disease eradication, arranged local schedules for testing of herds and flocks, and provided farmers with information concerning requirements of Federal, State, and local regulations pertaining to animal health.

Horse bots were controlled by 5,285 Kansas farmers in 1939 through the cooperation of the extension veterinarian, local veterinarians, and the educational work of the extension entomologist. More than 2,000 horses were treated for bots during a 13-day extension-sponsored campaign in Alcorn County, Miss. Nearly 31,000 horses were treated by Nebraska farmers during the winter of 1938-39. Similar campaigns were conducted in many other States.

The McLean County system of swine sanitation, first demonstrated upon the fall pigs of G. C. Johnstone, Bloomington, Ill., in 1919, has



provided marked advantages for swine growers throughout the Nation since that time. The system enabled farmers to raise their usual number of pigs from three-fourths the usual number of sows, reduced the number of runts, speeded the rate of gain, and reduced the amount of feed required per 100 pounds of gain. It is estimated that fully half of the Illinois 1939 pig crop was raised under recommended methods of sanitation, making a saving of over \$9,000,000 for the farmers of this one State. Variations of this system, adapted to local needs, were encouraged by extension workers in virtually all swine-producing areas of the country in 1939.

Poultrymen in all 48 States, Hawaii, and Puerto Rico received information and assistance from specially trained workers through the county extension organization. The 1939 poultry program included modern marketing and merchandising methods as well as recommendations for efficient production. Poultry's place in supplying a cash crop was emphasized as a feature of land use planning. Popularization of home-made equipment and simple flock-management systems encouraged raising home family flocks to supply a more adequate diet.

Demonstration farm flocks, which provide economic data and also serve as practical demonstrations, continued to be a fundamental part of the extension educational program. Approximately 4,500 such flocks are listed in extension records for the year. That the demonstration farm flock method has been effective in increasing the efficiency of poultry production is indicated by Missouri records which show that the average annual production per hen in demonstration flocks of that State increased from approximately 125 eggs in 1920 to approximately 150 eggs in 1939.

Extension workers distributed information concerning the National Poultry Improvement Plan, which is enabling producers throughout the country to eliminate disease and improve the quality of their birds. By the end of the year, 42,591 flocks with 8,653,568 birds and 2,033 hatcheries with a 75,782,922 egg capacity in 44 States were enrolled in the plan.

Testing for pullorum disease control reached a new high of more than 6½ million breeding birds in 44 States in 1939. The effectiveness of this work is indicated by the fact that the percentage of reactors among birds tested declined from approximately 6 percent in 1931 to less than 4 percent in 1939 despite a tremendous increase in the number of birds tested. Extension energies also made important contributions to the Seventh World's Poultry Congress in Cleveland, Ohio, which attracted an attendance of nearly 750,000.

The turkey industry has undergone rapid expansion in the past few years, and extension workers have been active in promoting "Grow Healthy Poults" campaigns and working with breeders in turkey-improvement associations and cooperative hatching-egg associations. When the turkey crop reached 32,000,000 birds, as it did in 1939, revised marketing methods, such as cooperative pools, were found advantageous. The use of Government grades for dressed birds was encouraged, and numerous killing and grading demonstration schools were held. In the 1939-40 season more than 35 million pounds of turkeys were graded according to United States specifications. This is an increase from 18 million pounds in the 1938-39 season.



Increased consumer buying power and favorable prices for dairy products after midsummer made 1939 a year of definite improvement for the dairy farmers of the Nation, and these improving economic conditions brought increased interest in extension educational activities. Increasing his efficiency is the dairyman's greatest opportunity for improvement, and measures for greater efficiency in production of dairy products continued to be widely adopted in 1939. Close cooperation with the agricultural conservation program and the Soil Conservation Service resulted in marked increases in the grasslands on dairy farms. More high-quality legume hays were put up; pastures were improved by reseeding, liming, fertilizing, and careful grazing management; increased acreages of temporary pastures were seeded and utilized to fill in during the short seasons of permanent pastures; and there were marked increases in the use of grass and legume silage.

The greater amounts of roughages available enabled dairymen to decrease the amounts of purchased concentrates and still maintain milk production. Meetings on dairy feeding and management were conducted by extension workers in many States. In Pennsylvania 250 such meetings were attended by 5,000 dairymen, many of whom reworked rations to save \$4 to \$8 in cash outlay per ton of grain fed.

Improvement of the breeding stock of dairy herds was an important project in most States. The production-transmitting qualities of more than 2,200 sires were proved during the year through dairy-herd improvement association work in 41 States, and an effort was made to keep all superior sires in service. County agents assisted 18,868 farmers in obtaining purebred sires. Cooperative use of high-class sires was brought about in 27 States through cooperative bull associations. Artificial insemination associations operated in 16 States to extend the benefits of outstanding sires. Three percent of the dairy cows in New Jersey were bred artificially. This State, which started the first artificial dairy breeding association in the United States in 1938, had five associations by the end of 1939, with 5,000 cows enrolled.

Improvement of dairy-management methods through record-keeping associations continued to expand. Seventy-two new dairy-herd improvement associations were organized, bringing the total to 1,300 in 48 States and 2 Territories, with 27,948 members having 676,141 cows on test. In a majority of States, regular farm accounts were kept by the association members and other dairymen and were summarized and analyzed at the end of the year. Demonstration of improved breeding, feeding, and management methods through associations has influenced many dairymen to adopt better practices.

In New York the average production of all cows enrolled in these associations is now 315 pounds of butterfat a year, as compared with only 261 pounds of butterfat in 1922. The 50,000 cows on test in Pennsylvania dairy-herd improvement associations produce milk at a cost about 75 cents per 100 pounds lower than the average cows in the State.

Extension workers cooperated with regulatory officials in informing dairymen on the importance of disease control.

Improvement in quality of dairy products was accomplished through extension contacts with both producers and manufacturers. Among the results of the quality improvement program were the building or



remodeling of 9,863 dairy buildings for greater sanitation and installation of numerous coolers and sterilizers.

Farm machinery is steadily increasing in importance to the American farmer. More tractors were purchased in 1937 alone than were in use on all the farms in the Nation in 1920. Combine harvester-threshers and many other types of equipment have shown great increases. The total investment in machinery on farms in the United States in 1939 was approximately 3 billion dollars. Care and maintenance of this mechanized equipment is vital, both to prolong the life of the equipment and to insure that farming operations can be carried out at the right time with a minimum of delay from breakdowns. Extension workers in 1939 assisted more than 76,700 farmers by providing information concerning maintenance and repair of machines. By following extension recommendations, these farmers saved approximately \$814,000.

Farm people have received more training in the economics of agriculture during the last 7 years than during any similar period in the past. The accumulation of crop and livestock surpluses brought forcibly to the attention of farm people the necessity for better understanding of the economic forces determining profit or loss for agriculture as a whole. As a result, there was a tremendous increase in requests for extension workers to provide information concerning the market outlook for farm commodities and the prospects for profit from different farm enterprises. Information on foreign trade, industrial production, and income of American consumers also found a ready audience.

Extension workers throughout the Nation continued to provide such information during 1939. Many States issued monthly publications of timely economic information which were distributed to request mailing lists of thousands of farm families. Weekly newspaper columns of economic material were distributed by some State extension services. Several States presented weekly radio programs of timely economic information. Extension economists from 45 States attended a national outlook conference in Washington, D. C., where comprehensive forecasts of conditions during the coming year were drafted, and took the lead in disseminating this information to farm people throughout their States.

Evident progress was accomplished in coordinating economic information with projects for teaching improved production practices. Beef tours to view such recommended practices as creep feeding of calves also presented information on the market outlook for the classes of cattle observed. Poultry meetings included discussions of the supply and demand prospects for poultry and eggs as well as suggestions for improved feeding and housing. Increased emphasis was given economic information at 4-H Club meetings and meetings of older rural youth.

In New York, home demonstration agents were supplied market-information letters shortly before State-grown products were due to appear on the market in large quantities. Information was sent out regarding butter, cherries, apples, peaches, summer vegetables, and in the fall about cauliflower and squash surpluses. Home demonstra-



tion agents informed the public about these products through radio talks and newspaper articles, and by distributing recipes giving new uses of the seasonal products.

In 1939 a total of 82,779 farmers kept farm accounts under the supervision of county extension agents. By means of these accounts and a large number of farm-management surveys, recommendations were made to individual farmers and homemakers for adjustments in farm business and farm and home budgets, which will aid in raising the income of farm people.

Farm accounts  
guide improved  
management.

Farm and home unit demonstrations are a relatively new phase of extension teaching aimed at a better standard of living on the farm through wiser management of the entire farming enterprise. A long-time farm and home plan is prepared for each farm for the year providing for better land use, erosion control, planned crop rotations, diversified farming, soil improvement, a more adequate family food budget, home improvement and beautification, and budgets and account records of business and family living. The demonstrations are set up on a long-time basis to provide examples of the benefits of careful farm and home planning in their relation to the economic and social welfare of the farmer.

Unit demonstra-  
tions effective  
new method.

Texas has about 400 of these unit demonstrations, that are intended to help the family develop a practical, progressive example of improved farm management and homemaking and to demonstrate the results for the benefit of the community. A study of 1938 records for 239 of these demonstrations showed that the average yield of cotton on these demonstration farms was 186 pounds of lint per acre, as compared to a county average of 152 pounds and an average production of 128 pounds for the communities in which the demonstration farms were located. Wheat yields were 12.6 bushels per acre on the demonstration farms as compared to 9.8 bushels for the county and 9 bushels for the immediate community. Oat production was 33.3 bushels, compared with 26.5 bushels for the community and 25 bushels in the county. Corn produced 23.7 bushels for the demonstrators, compared with 17.3 bushels for the community and 17.7 bushels for the county. The demonstrators' dairy cows produced 227 pounds of fat per cow as compared to 219 pounds for the average of the county. Sows on the farms of demonstrators produced more pigs per litter than the county average, and hens on these farms exceeded the county average in egg production. Better farming, better stock, and better feeding were responsible.

Such farm and home unit demonstrations were conducted in six Southern States in 1939 with highly satisfactory results, and an extension of this teaching method to new areas is indicated for the years ahead.

Approximately 1,400,000 farmers in about 20,000 communities were given assistance in marketing by extension workers in 1939. These farmers, through cooperative associations and as individuals, sold farm products valued at more than \$525,000,000 and purchased nearly \$75,000,000 worth of farm supplies. About 75 percent of this total business was done by cooperative organizations. An important part of extension work in marketing was devoted to assistance and guidance in improvement

Farmers assisted  
in marketing.



of varieties and quality of products to be sold; grading, standardization, packing, labeling, and otherwise preparing the products for market; furnishing current market information; and considering the time of selling in relation to market prices and competition from other areas. In addition, the principles of marketing and factors affecting costs of distribution received serious consideration in the general extension marketing program.

More than 7,500 cooperative organizations with a membership of approximately 900,000 received extension assistance during the year in such varied forms as training schools and short courses, organization procedure for new associations, advice in the solving of business-management and operation problems, membership-information campaigns, and promotion of cooperative councils. In a few States, assistance was given consumer cooperatives as well as farmers' organizations.

Extension workers assisted with marketing agreements and the purchase and diversion programs sponsored by the Department of Agriculture and the Federal Surplus Commodities Corporation by explaining the programs to producers, conducting referenda, and assembling research material to be presented at public hearings. The Service also assisted such industry groups as the Northeastern Vegetable and Potato Council in the development of programs for certain commodities, leading to more efficient production and marketing practices.

Increased attention to farm-tenancy problems has been noticeable in extension work during recent years. In 1939 activities in this field included special landlord-tenant conferences, preparation of printed material on satisfactory leasing arrangements, providing lease forms suited to different types and systems of farming, and cooperating with State tenancy commissions, planning boards, and research departments in gathering facts pertaining to tenancy problems and arousing public interest in those problems.

In Oklahoma, a landlord-tenant relationship committee, set up by the State legislature in 1937, completed its work in 1939 and transferred its data to the extension division of the Oklahoma Agricultural and Mechanical College. Forty-three of the 77 county agents in the State were active in promoting landlord-tenant work, sending out questionnaires to tenants, holding meetings, and selecting demonstrators. In Le Flore County alone it was estimated that 100 landlords and tenants were influenced toward more equitable and longer terms of tenure. One owner of 17 farms in the county was so impressed with the possibilities of better cooperation between landlords and tenants that he held a luncheon for all his tenants to obtain their suggestions for improvement.

More than 23,400 farm families on relief were assisted by extension agents to become self-supporting in 1939, and additional large numbers were benefited through extension cooperation with representatives of the Farm Security Administration and other agencies working with low-income families. Two hundred and sixty-three thousand farmers were assisted in obtaining credit.



Extension efforts to develop a better understanding of the problems of rural taxation and rural government were continued in 1939. Facts concerning problems relating to property taxes, income taxes, taxes for specified local services, and the relation of the assessment systems to the income-producing capacity of different local areas were assembled and disseminated. At the request of the local taxpayer groups, extension workers presented facts concerning the costs of local government and the possibility of decreasing those costs through consolidation of local governmental units. In a few States, consolidation of minor governmental civil divisions resulted from extension educational work with local people.

Educational work in connection with the various public programs for improving agricultural conditions occupied a large share of the time of county extension agents in 1939. Such activities included both explaining provisions of the programs to the general public and also training of local committeemen and others assigned the responsibility of administering the various programs. Equally important was the guidance given by extension workers in assembling local recommendations and information on specific problems as a basis for the development of local, regional, and national programs.

By means of tours, general meetings, circular letters, and training schools for committeemen, materials were presented demonstrating the economic values of certain practices related to soil conservation, soil improvement, productive forest husbandry, and the like, with emphasis on the when, where, and why of the various practices as well as how to put them into effect economically. Adjustments in farm organizations needed to promote the broad objectives of programs and also the soundest possible individual farm economy were explained, with emphasis on the relationship between farm income and the size, production, efficiency, and balance of the individual farm.

Educational exhibits prepared by the Agricultural Exhibits Section of the Federal Extension Service were displayed at 58 fairs and expositions in 1939 with a total attendance estimated at more than 10 million persons. Twenty-one new exhibits were built during the year, 17 of which were planned to further conservation practices and the national farm program. The Exhibits Section, which supervises all exhibit work of the Department of Agriculture, cooperated with several States and with other Government agencies in the preparation of exhibits during the year and planned, produced, displayed, and managed the entire Federal exhibit at the World's Poultry Congress — the largest Government display ever prepared on any one subject.

During the past 25 years, the Department of Agriculture has presented information on better ways of farming and on a more abundant home life to farmers and the general public at more than 1,500 fairs, expositions, and other exhibition occasions having a total attendance estimated to be about 200 million people.

In early days, Government agencies expended much exhibit energy in telling the public about their functions, but as early as 1921 the Department of Agriculture commenced presenting instead useful information about new and better ways of growing crops, handling



livestock, and improving the home. Since then the standard applied in considering subjects for exhibits has been the usefulness of the facts to farmers and the general public.

The Federal Extension Service distributed nearly 30,000 educational film strips and more than 4 million Department of Agriculture bulletins and discussion pamphlets in 1939, filling requests from State extension offices and other educational agencies. Requests for both bulletins and film strips were much greater than in previous years. Eighty-three thousand copies of extension circulars and other mimeographed material were distributed. The Extension Service Review, monthly house organ for extension field workers, was built around the central theme of land use planning during the year and did much to keep all extension workers informed of methods being successfully used by fellow workers in the various States.

Approximately 7,900,000 people saw United States Department of Agriculture motion pictures at more than 53,300 showings during 1939. The fact that requests for more than 6,500 films had to be refused because prints were not available indicated the great popularity of this educational service.

Preparation and distribution of these pictures is a responsibility of the Extension Service. Films from the extension motion-picture library are lent without charge for educational use, and educational agencies are permitted to purchase copies of these films at cost. Nearly 1,360 such copies were purchased during 1939. Other agencies now own as many prints of Department films as are circulated by the Department itself.

Thirty-seven new motion pictures were completed and released during the year. These dealt with a variety of subjects ranging from grasshopper control to recreation in the national forests. By the end of the year, 8,000 prints of Department films were available for distribution under the loan service.

The Motion Picture Section of the Extension Service also furnished advice to educational institutions, commercial and other organizations, field workers, and cooperators on the production and use of motion pictures and selection and use of motion-picture equipment.

A broad program of research aimed at increasing the effectiveness of the work is important in any educational enterprise that involves an annual expenditure of nearly 33 million dollars and influences more than 5,400,000 rural families each year. Such a research program is carried on by the Extension Service through cooperation between the Surveys and Reports Section of the Federal office and the various State extension services. Progress in developing measurements of the educational growth of boys and girls resulting from participation in 4-H Club work was a significant development in 1939. New tests being developed will make possible a wide range of studies that will enable workers to improve the program planning, organization, methods, and evaluation of extension work with rural young people.

Careful analyses of annual statistical and narrative reports of county and State workers were made available to specialists and supervisors to guide them in increasing the effectiveness of the work.



Extension staff members continued to show keen interest in professional improvement by taking advantage of opportunities to fit themselves more adequately for their jobs. Seven hundred and seventy workers attended the 3-weeks to 8-weeks in-service training courses given at 13 State colleges during the summer of 1939. Courses in extension methods and extension organization and program development—based largely upon research findings in these fields—were especially popular.

## A Better Way of Life

•Farm families are the foundation of agriculture, and better living for farm families is the primary goal of agricultural improvement.

The home demonstration staff of the Extension Service aided more than 2 million rural families to make progress toward better rural living in 1939. These 2 million families built or repaired their houses, attained better physical health and mental outlook, were better clothed without additional cost, or carried on needed tasks with greater ease and satisfaction. They made plans for better use of the available resources of the farm to meet the family's needs. They added to their cash income through such means as home industries and farm women's markets, and by more efficient use of available cash when making needed purchases for family living.

They added to the comfort and attractiveness of their homes and gained more time in which to rest and find wholesome, inexpensive enjoyment within the home and community. They enjoyed better cooperation within the family group and with others, and improved conditions in their communities.

Sincere interest in such improvement of rural living was evident throughout the Nation—evident in widespread interest in beautification of home grounds; evident in the untiring efforts and hard labor that mothers put into the repair, reconditioning, and refinishing of furniture; evident in their willingness to shampoo rugs and to make curtains, slip covers, and draperies, all in the interest of adding beauty and cheer to the home; evident in the willingness and zest of both fathers and mothers in attending recreation training schools to learn to make home-made toys and games and to play games with their own and their neighbors' children; evident in the interest of parents in the study of child development and family relationships. These efforts are indicative of the unselfish energy of men and women in trying to make their homes havens for their families' enjoyment and worthy assets to their communities.

Home demonstration clubs, organized to bring extension teaching to interested rural women, are the foundation of the program. From the nucleus of these organized groups, information concerning improved homemaking practices spreads to farm families everywhere, regardless of race, creed, color, or income. There were 47,812 such clubs in 1939, with 1,118,519 members, an increase of 800 clubs and 14,000 members above the 1938 totals.

Most of these clubs met at monthly intervals under the guidance of the county home demonstration agent. Together the homemakers studied the current economic and social situation, the resulting home

Over a million  
members in dem-  
onstration clubs.



problems, and ways of solving them. Home demonstration agents stimulated them to want to know facts, to make their own decisions based upon accurate information, and to plan practical goals of improvement—for self-help is a basic principle of home demonstration work.

A democratic process of planning, with local rural women taking part, continued to be the foundation for the home demonstration program in 1939, as it has been for 15 years. Through county home demonstration councils and similar local committees, these women analyzed the major problems confronting their homes and communities and indicated the program to be undertaken for solving them.

Assisting home demonstration agents to inspire the vast membership of these clubs were 236,535 volunteer leaders, rural women who served without pay in spreading valuable information to the homemakers of their communities. Without their efforts, the impressive 1939 accomplishments of home demonstration work would not have been possible, for these volunteer leaders are a vital link in the chain which carries new practices from the State colleges and the Department of Agriculture to farm homes everywhere. There were 20,500 more such leaders in 1939 than in 1938, giving evidence that the home demonstration program is meeting fundamental needs of rural families and is inspiring farm people to help themselves and their neighbors.

Reaching a larger number of rural people is a continuous objective of the home demonstration staff in all States. During 1939, several States made detailed analyses of the situation to determine whether their programs were reaching all income groups and all age levels of farm women. Such an investigation in California revealed that since 1930, home demonstration work has reached 62 percent of all farm homes in counties having home demonstration agents. Georgia studies showed that families of tenant farmers made up 47 percent of the membership of clubs organized by home demonstration agents. An Ohio survey indicated that the proportion of home demonstration club members below 45 years of age increased from 35 percent in 1935 to 52 percent in 1939.

A survey of home demonstration clubs in 20 Indiana counties showed that 15 percent of the women were under 30 years of age and only 29 percent were over 50 years of age. One-third of the families reported net incomes under \$500, and only 20 percent reported \$1,500 or over.

Good health is a step toward good living, and measures for improving the health of farm people were important in the 1939 home demonstration program. Accident prevention, care of the injured and the ill, home sanitation, nutrition requirements for good health, and disease prevention were taught in home demonstration clubs throughout the country. Cooperation between home demonstration agents and public health agencies made possible greater service to rural people in improving health. As a result of these teachings, more than 378,000 people were immunized against typhoid, diphtheria, or smallpox; 81,282 families screened their homes; 124,302 families used recommended methods of



control of flies and mosquitoes; and 59,935 families installed sanitary toilets. Child-feeding practices were improved, and better balanced meals were served in many homes.

Nearly 370,000 individuals reported enjoying improved health as a result of the extension program, but the most important results cannot be measured in figures. More significant than any of these definite practices for safeguarding health was the spreading of knowledge. Because they now know what to do and how to do it to protect the health of their families and to care for the ill and the injured, rural women in every part of the Nation are better equipped to safeguard human resources against the ever-present hazards of accidents and disease.

Health is mental as well as physical, and the mental health of the farm family was not neglected in the home demonstration program. Study of mental attitudes and social changes aided farm families to maintain good family relationships in spite of continued low income. Activities to provide variety and relaxation in the life of the farm family were important in maintaining morale. Family fun nights, family and community picnics, mothers' vacation camps, and tours to points of interest were features of the extension program in many States. Musical talents of farm people were developed through choruses. In Indiana, 1,500 women representing 70 counties participated in a music festival held during farm and home week.

Study of good books and development of local library facilities added interest and variety to life in many rural communities. In Muskingum County, Ohio, the home council, the home demonstration agent, and the Zanesville librarian cooperated to establish libraries in 12 communities during the year. Thirteen other Ohio counties reported specific attention to books and reading for the farm family. Book reviews were regular features of home demonstration club meetings in Kansas and many other States. Nearly 25,000 Nebraska women were enrolled in a Read for Facts and Sing for Fun project.

Oregon extension workers looked back over results of the 8-year period during which family and community recreation has played a distinct part in their home demonstration work and found that friendships had been formed, communities brought together, and attitudes toward life changed through this attention to the social life of farm families.

Tackling the widespread problems of poor nutrition and low farm income, home demonstration workers in 1939 placed special emphasis on home production of food to meet the family needs. Food planning widely adopted. Diet patterns worked out by the Bureau of Home Economics served as guides. More than 196,000 families followed extension recommendations for storage of the home food supply, and more than 600,000 families were assisted in canning or preserving fruits, vegetables, and meats.

In North Carolina, one of the States emphasizing home food production, every farm family received an extension leaflet giving a garden calendar, food requirements for the farm family, feed requirements and livestock and crop-rotation schedules. More than 183,500 home gardens were reported. Dairy specialists took a part in the program by encouraging the use of milk in the diet and giving instructions on home preparation of dairy products. During 1938-39, there was an increase of more than 11,000 in the number of family cows in the



State. Meat schools and poultry meetings added emphasis on home food production.

A \$4,726,544 food-preservation program was conducted by the home demonstration clubwomen in Alabama. Despite adverse weather conditions, farm women in the State canned 3,072,931 quarts of food, which was supplemented with dried fruits and vegetables, year-round gardens, home dairies, cured meats, and home poultry production.

In New Mexico, the foods and nutrition project was reorganized to establish a single program with the family food supply as its basis. The extension nutritionist, agronomist, economist, animal husbandman, poultryman, dairyman, and horticulturist assisted county extension agents in setting up family food supply demonstrations in six counties.

More vitamins were stored in New Hampshire farm pantries as the result of a Better Living for the Farm project, which included a successful drive for the planting of small fruits and the use of more tomatoes, both fresh and canned.

Planting to provide fruits, nuts, and berries for family needs was a feature of home demonstration work in 20 Georgia counties. More than 94,800 peach trees, 3,600 apple trees, and 1,300 pear trees were planted, in addition to 22,584 grapevines, 202,499 strawberry plants, and a large number of figs, pecans, plums, quince, scuppernongs, raspberries, and youngberries.

Emphasis on meeting food needs extended to Alaska where much interest was shown in the preservation of vegetables, fish, and wild game. In Hawaii, also, steady progress in promoting food production continued. The production of food for home consumption in Hawaii has more than kept pace with the increase in population during the past 10 years, and the Islands now are more nearly self-sufficient in food than when extension work was started there 10 years ago.

Increased numbers of frozen-food lockers were available to farm families in many parts of the country during 1939, and extension workers filled a need by teaching present and prospective locker patrons the place of frozen foods in the food conservation budget, how to select and prepare vegetables, fruits, poultry, and meats for locker storage, and how to plan for efficient use of locker space. In meetings with locker plant owners, extension specialists emphasized the necessity of maintaining storage temperatures sufficiently low and even to insure high-quality products.

In the South, freezer-locker units are being considered and tested in combination with the long-established refrigerated meat-curing houses which in 1939 cured an estimated total of 50 million pounds of farm-dressed pork. The coming of freezer-locker facilities is making it possible for southern families to enjoy fresh home-raised meat throughout the year and is thus stimulating greater interest in diversified farming, including livestock for the home meat supply.

Meal planning, with special attention to the needs of children and to the contribution of happy mealtimes to family life, continued to be a popular feature of the home demonstration program in 1939. Such projects as "extending the prime of life," "food after forty," and "preventing human erosion" showed the interest of middle-aged and elderly people

Freezer lockers  
aid food storage.

Meal planning  
always popular.



in feeding themselves for continued physical fitness. In many States, particular attention was given to work with low-income groups, whose health often is undermined by inadequate diets. The Massachusetts State extension nutritionist worked closely with the administrator of surplus commodities and with town welfare boards in helping relief families to make good use of available food supplies. In South Dakota, a series of meetings featured a demonstration of preparing a meal in which eight surplus commodities were used. Families served by the W. P. A. and the F. S. A. were invited to attend, together with county superintendents of schools, home economics teachers, 4-H Club leaders, and others.

Clothing ideas learned through their home demonstration clubs aided rural women to conserve the family cash income in 1939.

Homemakers were encouraged to make inventories of clothing on hand to determine those garments which could be made over or which needed to be replaced. **Clothing teachings conserve farm income.**

They were given assistance in construction of garments so that clothing made in the home would have a tailored look. Loan pattern services were especially helpful to mothers of young children. Better buying practices were taught.

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Clothing accessories, both home-made and purchased, were considered as means of making one dress suited to various occasions. Instruction was given on safe methods of dry cleaning and pressing at home so that the family clothing could be kept in good order at little expense. Home laundering of silk and wool garments also was taught. Savings to rural families as a result of clothing work through home demonstration clubs in 1939 were estimated to be more than 2 million dollars. The work had added value because of its aid in maintaining the morale of farm families.

A striking result of extension clothing instruction during the past decade is that farm women throughout the United States today present a well-dressed appearance and have the personal satisfaction and the poise that result from being appropriately even though inexpensively dressed. The self-confidence thus developed is at least partially responsible for the fact that rural women in large numbers are contributing to the discussion in public meetings without self-consciousness and are accepting positions of responsibility in organizations and in community activities.

Nearly 8,700 new farm homes were constructed according to plans furnished by extension workers in 1939, and more than 22,500 homes were remodeled according to extension suggestions. **Progress toward better housing.** Definite progress toward better rural housing was accomplished.

Kitchens in more than 12,000 Texas rural homes were improved as the result of an extension project with kitchen sanitation and convenience as its keynote. Rural better homes week was observed by 526 home demonstration clubs in 57 Mississippi counties, and 9,163 families made improvements in their homes, farm buildings,



and grounds as a result. A low-cost home-improvement project, designed for the family which can spend but little each year, was conducted by the Maine Extension Service.

Such efforts to make the farm home a more comfortable and satisfying place to live have long been important features of extension work. Providing house plans, offering suggestions on remodeling old homes for greater convenience and comfort, demonstrating inexpensive pieces of homemade equipment for greater home convenience, offering advice on purchase of new furnishings and demonstrating methods of refinishing old furniture—all have been services offered through county agricultural and home demonstration agents.

The coming of electricity to approximately 379,000 farms was the most important development in rural housing during 1939, and the arrival of this labor-saving and comfort-bringing aid was reflected in requests for advice on the wiring of farm buildings and the purchase of electrical appliances that poured into county extension offices. To meet this new need, consumer education meetings by the hundred were held to help farm families plan their wiring and their placing of outlets, and to help them get their money's worth when they went to the store to buy the new electric refrigerator, electric iron, toaster, or radio. Suggestions were given for profitable use of electric power for feed grinding, wood sawing, ensilage cutting, operating milking machines, and similar farm tasks. Particular attention was given to better lighting and the conservation of eyesight.

Extension exhibits and talks were features of the program of a traveling show of electrical farm equipment sponsored by the Rural Electrification Administration, which was attended by 175,000 farm people in 8 States. And meetings of interested farm people arranged by county extension agents laid the ground work for organization of R. E. A. cooperatives in many communities.

To make the home attractive is to make the family proud of its dwelling and thus strengthen the family bond, as all parents know.

Extension work in 1939 contributed to making rural homes more attractive both inside and out.

Farm women learned from home demonstration agents and volunteer local leaders methods of refinishing and reupholstering furniture and refinishing floors and walls. They studied redyeing of old fabrics and selection of inexpensive materials of good color and design to make attractive draperies, curtains, slip covers, and other accessories. They received information on furniture arrangement, picture placing, window treatment, and planning of storage space to avoid cluttered rooms. In the cotton-growing States, they learned to make mattresses worth \$25 from \$6 worth of home-grown cotton.

An indication of the intense interest in this work is the fact that more than 185,800 families followed recommendations in improving methods of repairing, remodeling, or refinishing furniture in 1939. The total cash saving resulting from the home-furnishing program is estimated to be \$1,784,860. There were far greater dividends in lasting satisfaction and enjoyment, for the most important result of home improvement is the more enjoyable home life beginning with such simple changes as better placing of light, new curtains, or even rehanging of pictures.



Farm home grounds were beautified by landscaping and cleaning up. A total of 148,400 families followed extension suggestions in planting trees and shrubs. Many used native materials brought from nearby woods. Painting of buildings, mending of fences, and laying out of attractive walks and drives were other noticeable improvements at more than 100,000 homes.

In Arkansas, 266 communities including 11,400 homes were enrolled in an extension-sponsored community landscape demonstration contest. With "making the best of what one has" as its slogan, the contest emphasized general cleaning up of premises around each home, removal of unsightly piles of rubbish and refuse, straightening fences, painting or staining buildings and garden or yard fences and posts, and beautification of premises by planting shrubs and flowers, sodding lawns, and building walks.

Rural women in many States acquired a better understanding of such business papers as mortgages, notes, checks, wills, and deeds in 1939 through their home demonstration clubs. Farm families study income management. Farm-credit facilities also were studied, as home demonstration agents aided farm women to achieve clearer knowledge of the "business side" of farming.

Account keeping as a step toward better management of the family income was adopted in 44,365 homes. The practice of budgeting expenditures in relation to income gained favor, and the establishment of farm-family financial councils—with every member of the family taking part in budget planning—showed marked progress. Information concerning the economic outlook for farm-family living during the coming year was studied in home demonstration clubs throughout the Nation. Such discussions focused attention on the need for home production of food and fuel so as to release cash income for the purchase of manufactured goods. They also brought home to rural people the relation between city and rural levels of living and the interdependence of city and rural well-being.

Measures for supplementing the cash income of the family continued to be of interest to women and girls, many of whom sold home-made articles through cooperative markets sponsored by their home demonstration clubs. Nearly 41,500 families were assisted by extension agents in developing such home industries as a means of supplementing their incomes.

Gross sales under the miscellaneous marketing project of the Georgia Extension Service totaled \$543,913. The combined total of all products sold from marketing projects carried on by Arkansas home demonstration women was \$1,198,399. Alabama and North and South Carolina likewise reported important results from this work.

Making farm communities more satisfactory places in which to live is a continuous extension goal. Promotion of strong local organizations is a method used for attaining that goal. Through these organizations, the activities of the entire community are united in drives for such improvements as community hospitals, rural electric lines, serving of hot school lunches, organization of county choruses and other art and recreational projects, community forests, road improvement, and construction of community meeting centers. In 25 States, members of the State extension staff

Build better communities.



were specially assigned to definite duties in connection with rural community development in 1939, and in all States community improvement was a phase of the extension program.

Because recognition of community problems is necessary before general interest can be aroused in solving those problems, Massachusetts extension workers emphasized a "know your community" survey in connection with land use planning meetings and other local meetings. Louisiana in 1939 made a survey of 60 community organizations established 15 years earlier and found that 40 of them still were active, with records of outstanding accomplishment in improving local economic, civic, health, and recreational conditions.

Community-center buildings were constructed or maintained during the year in Georgia, Arkansas, and Illinois. Community councils were promoted in Massachusetts, New Hampshire, New York, North Dakota, and Missouri. Community beautification, safety, health, drama, and music were encouraged in many States.

Many of the Nation's nearly 48,000 home demonstration clubs devoted a part of their energy to promoting specific community betterment projects. Types of improvement accomplished ranged from landscaping school grounds and serving hot school lunches to sponsoring monthly community "family nights" and purchasing sickroom equipment for community use where hospital service was not readily available.

Among the year's new and striking community projects were the demonstration forests on idle farm acres established by Arkansas home demonstration club members in nine counties. The land was leased to the county home demonstration councils for a sufficient period for the seedlings to grow sawlog trees or fence posts.

A State-wide tree-planting project sponsored by Connecticut home demonstration club members resulted in the planting of some 20,000 trees and shrubs in private grounds and around churches, schools, greens, and public buildings in an effort to restore some of the beauty destroyed by the hurricane of 1938.

In Hennepin County, Minn., one home demonstration club organized and conducted a nonsectarian Sunday school, and another worked with other community groups in a campaign for better motion pictures for the children's Saturday matinee.

In Kittitas County, Wash., home demonstration clubs rendered vital service in crystallizing community effort that resulted in building a new county hospital.

A growing demand from rural people for help in child-development and family-relationship problems was evident in 1939. Recognizing

Human relation-  
ships new exten-  
sion field.

that many of the major problems of living are due to inability to get along with other people and that this results from lack of knowledge of human nature and its needs and capacities, farm people turned to the Extension Service for help. Parents of 267,944 children participated in group meetings held by home demonstration agents to help adults better to understand themselves and their children. Parents learned what to expect of children and of themselves at different age levels, how to train emotions as well as minds and muscles, and to discuss family-life problems objectively.

Farm-family councils were encouraged to develop the family as a social unit, with every member interested in the welfare of all the



others and with every member sharing in the responsibility of planning for the family future.

During the past decade there has been a continuously mounting interest in this field of work. The increasing complexity of farm-family experiences in recent years has created many problems of relationships within the family and the community. There is need for understanding the effects of changing agricultural and social programs, and for planning accordingly. In addition, farm men and women have received guidance in the best use of community programs leading to individual development.

## Tomorrow's Men and Women

The training of youth molds the attitudes and ideals of maturity. That fact lends tremendous national significance to the American system of 4-H Clubs—a system of rural-youth education for living that is unduplicated elsewhere in the world. Supplementing the classroom training of schools with experience in agriculture and homemaking, and with social training through group activities, these clubs of farm young people have acquired a place of unique importance in modern United States.

More than 8 million rural young people have been club members during the last 25 years. Boys and girls from all types of families have been included—sharecroppers, tenants, and farm owners alike.

The former club members now assuming tasks of local and State leadership in agriculture, business, and government demonstrate the power of 4-H Club training in building character and ability. The increasing percentage of the Nation's rural youth enrolling in these clubs each year demonstrates the popularity of this movement, with its four-fold program for development of head, heart, hands, and health.

Membership in 4-H Clubs in 1939 totaled 1,381,595, an increase of 7.4 percent above the 1938 total and the largest membership in the 25-year history of this rural-youth organization. This was a continuation of a trend which has been evident for several years. Enrollment has increased more than one-third since 1935.

More than 75 percent of these rural young people completed their project work for the year, which was a new high in accomplishment reflecting the high quality of supervision given club work by 147,000 volunteer local leaders and by extension staff members. The quality of project work throughout the country was higher than in any previous year.

The 4-H Club projects undertaken in 1939 represented a wide variety of fields in improved farming and homemaking in keeping with the needs and interests of rural young people.

An increased interest was noted in all phases of the 4-H food-club work which, as in many previous years, ranked first in the number of members enrolled. The dietary needs of the family and the use of home-grown foods were widely emphasized. In all, 8,900,000 jars of fruits, vegetables, and meats were canned. In addition, more than 1,500,000 jars of

As the twig  
is bent.

4-H membership  
reaches new high.

Food projects  
most popular.



jelly were made and nearly 3,000,000 pounds of fruits and vegetables were dried by those members enrolled in food preservation.

The 346,466 young people enrolled in meal preparation reported that a large number of meals had been carefully prepared for various periods in keeping with the nutritional needs of the entire family, in addition to the work in baking and the preparation of wholesome school lunches. Thousands of girls reported that they did the canning for their entire families, thus demonstrating that they have been able through club work to share home responsibilities.

In many States, all club members checked their food and health habits and gave special consideration to the care of their teeth and to good posture from the viewpoint of food selection. Nearly 18,500 club members had health examinations, either as a part of their club activities or in connection with health contests. Dental clinics were held in several States. The 4-H Club garden and orchard work also played a prominent part in the general nutrition program throughout the country.

As usual, clothing work proved highly popular. Increasing emphasis was placed on the use of a practical clothing budget for the rural girl in her efforts to dress well at small cost. Promote practical clothing budget. More than 81,000 club girls kept clothing accounts throughout the year, and 34,178 budgeted their clothing expenditures. Other phases of clothing work demonstrated by the 350,000 club members enrolled included garment construction, the selection and purchase of materials and of ready-made garments, the construction of children's garments, and the care, repair, and remaking of garments. Shopping tours to develop good "buyman-ship" practices were encouraged. Color clinics to help girls to make harmonious color selections were popular in several states. Considerable interest was noted in the making of attractive garments and other articles of clothing from feed and sugar bags as a thrift measure. It is estimated that thrift practices demonstrated in the clothing program saved more than \$939,000 during the year.

Thrift measures were also practiced by the 4-H Club members engaged in refurnishing their own rooms and sharing in the general responsibility of making the whole farm home more comfortable and enjoyable, thus making for family solidarity.

Demonstrating better seed selection and crop cultivation was a field in which club boys took an important part in 1939. In a number of States, much interest was shown in the results attained by members using hybrid seed corn. Cotton, potatoes, wheat, oats, barley, peas, soybeans, clovers, pastures, and sugar beets were among the other crops grown by club members.

Considerable gains were noted in the livestock undertakings of club members due to increased extension personnel, better economic conditions in the livestock industry, and impetus given livestock club work by breeders, bankers, and businessmen who have supported such projects by lending money, offering prizes for quality work, and other means. The chief demonstrations undertaken by club members continued to be those concerned with the introduction of better stock, feeding, management,



and marketing. In Nebraska, 8 junior bull rings included 42 bulls which were used in 126 dairy herds in which were heifers of breeding age owned by club members.

Demonstrations dealing with soil improvement have been increasing in recent years. The laying out of terrace lines and the construction

Variety of other activities under way.

of terraces, testing soils for lime and phosphate requirements, and the growing of legume crops for soil improvement are becoming popular.

In New York, 1,471 club members enrolled in forestry projects. First-year enrollees each received 1,000 trees through the cooperation of the State conservation department and used these trees to carry out reforestation on approximately 1,050 acres. In the last 14 years, nearly 14 million trees have been planted under this plan. The Washington County 4-H Club Forest alone now contains more than 40,000 trees.

Beekeeping was undertaken in several States. Production of honey by Pennsylvania club members for the past few years has averaged 84 pounds per colony of bees a year, which is 60 pounds greater than the State average.

Farm-management methods were studied by numerous club members, with especial interest being shown in such topics as how to do business at a bank; how to record legal papers; how to take a farm inventory and make a credit statement; and how to get and use credit. Home management likewise was studied, including the keeping of home accounts. Many girls, because of what they had learned in their 4-H Club work, were able to take care of their homes while their mothers went to town, to a farm women's camp, or to farmers' week at the State college.

Club work with Negro farm youth has grown gradually since its beginning about 20 years ago. Enrollment in 1939 was 178,544, a gain of 15,109 members over 1938.

An important objective of 4-H Club work is the development among young people of constructive group action and group control, which are in keeping with democratic government.

Training for democracy.

Among group activities that aid these farm young people in learning how to work with others so that all may have maximum benefit are the club demonstration teams and judging teams, work in music appreciation and dramatics, tours and hikes, camps, club ceremonies, exhibits, and achievement days. During 1939, county extension agents trained 52,828 4-H Club demonstration teams that influenced the spread of improved farming and homemaking practices in their own and nearby communities.

During 1939 it was the common thing for clubs, in addition to their farm and homemaking project activities, to plant shrubbery and flowers about local schoolyards, town halls, and roadsides; to produce and sell disease-free seed at reasonable prices; to make children's clothing for needy families; to provide hot lunches for local schools; to help to promote county-wide soil and livestock campaigns; to establish community and county fairs; to maintain and improve 4-H Club camps; and to develop dramatics and other recreational activities for community programs.



The needs and possibilities of young people were given consideration in the planning of the general extension program for 1939 to a greater degree in most States than ever before. The economic aspects of the club programs were given consideration in the outlook conferences held at the beginning of the year, and in special literature prepared for the use of club members at regular meetings and in discussion groups at community meetings. Ample opportunity was provided for the participation of rural young people in both planning and carrying out the general community extension programs, and in several of the other national programs operating on a county and community basis.

Club programs for the year included activities for enrichment of everyday living, such as work in music, art appreciation, study of good books, and study of the great outdoors.

In New Hampshire an effort was made to spread the influence of club work over the entire community by asking other groups and individuals to participate in certain 4-H Club projects for the good of the community or State, without losing their identity and without joining 4-H Clubs. Nine hundred boys were organized into groups of 4-H Forest Rangers to help guard against the great hazard of forest fires in the hurricane-blown areas. They were taught fire-fighting methods and were assigned areas to protect. The plan worked so well that it will be extended in 1940 to other projects.

Rural young people above 4-H Club age who are seeking a livelihood that will enable them to establish homes of their own found assistance in many States through the organization of special clubs often known as senior or alumni 4-H Clubs with programs designed to meet their special interests. By the end of 1939, there were 2,073 of these older-youth clubs with 71,701 members.

Vocational guidance and agricultural and homemaking information that would aid in equipping them to start homemaking and farming for themselves were of special interest to these older youth. Recreational activities and those pertaining to social development also were included in the programs. Several State extension services sponsored State-wide conferences for delegates from these groups, which afforded opportunities for exchange of experiences, as well as providing contact with important leaders in many vocational fields.

## Progress Through Leadership

Most outstanding among the accomplishments of extension work in its quarter century of service to rural United States has been the development of volunteer rural leaders—the training of interested farm people to inspire and educate others in scientific agricultural and home-making methods. More than half a million men and women volunteer as local leaders every year. Through these unpaid leaders who believe, practice, and defend extension recommendations, the rank and file of farm people have come to accept and practice new methods of farming and homemaking. Methods of husbandry that were unknown even to county agricultural agents when extension



was new are today understood and practiced by farmers throughout the Nation. And the county agent and the home demonstration agent, once regarded as purveyors of unessential theories, are today welcome and trusted counselors to farmers everywhere.

This legion of volunteer leaders, created by a quarter century of cooperative effort toward more satisfying rural living, has also taken a leading role in putting into operation the Government action programs of recent years directed at pressing economic and social problems.

As extension work marches into its second quarter century, the local leaders who so freely donate their time and effort to the cause of American agricultural progress form the vanguard of the procession.

## Facts in Figures

TABLE 1.—General summary of extension activities and influence, 1939

Item	Number	Counties reporting
County associations fostering extension work.....	6, 833	2, 618
Members in such associations.....	872, 089	2, 552
Communities in counties.....	79, 750	2, 967
Communities with extension program.....	64, 555	2, 773
Voluntary local leaders:		
Men leaders in adult work.....	237, 963	2, 615
Women leaders in adult work.....	236, 535	2, 576
Men leaders in 4-H Club work.....	39, 076	2, 641
Women leaders in 4-H Club work.....	65, 016	2, 708
Older club boy leaders in 4-H Club work.....	17, 760	1, 747
Older club girl leaders in 4-H Club work.....	25, 498	1, 794
Clubs or other groups organized to carry on adult home demonstration work.....	47, 812	2, 404
Members in such clubs or groups.....	1, 118, 519	2, 389
Organized 4-H Clubs.....	78, 599	2, 952
Members in 4-H Clubs:		
Enrolled.....	1, 381, 595	2, 916
Completed.....	1, 039, 244	2, 897
4-H Club projects:		
Started.....	2, 757, 543	2, 916
Completed.....	1, 977, 088	2, 897
Groups organized for extension work with rural young people above club age.....	2, 073	1, 025
Membership.....	71, 701	949
Total number all meetings held by county extension agents.....	1, 319, 239	2, 915
Attendance.....	46, 679, 905	2, 915
Adult meetings held by local leaders not participated in by agents.....	308, 645	2, 495
Attendance.....	5, 678, 707	2, 490
4-H Club meetings held by local leaders not participated in by agents.....	422, 113	2, 472
Attendance.....	5, 648, 346	2, 470
Farms in counties with extension agents <sup>1</sup> .....	6, 816, 768	2, 983
Farms on which changes in practices have definitely resulted from agricultural extension program.....	3, 594, 360	2, 820
Homes in which changes in practices have definitely resulted from home demonstration program:		
Farm homes.....	1, 346, 695	2, 386
Other homes.....	603, 148	2, 251
Homes with 4-H Club members enrolled:		
Farm homes.....	820, 425	2, 846
Other homes.....	192, 281	2, 516
Families influenced by some phase of the extension program:		
Farm families.....	4, 594, 859	2, 924
Other families.....	886, 938	2, 747

<sup>1</sup> Census, 1935.



TABLE 2.—Number of counties with county extension agents, July 1, 1915, 1925, 1935, and 1939, and total number of extension workers, July 1, 1939

State	Counties in State	Counties with agents on July 1—								Total extension workers, July 1, 1939
		1915		1925		1935		1939		
		Men	Women	Men	Women	Men	Women	Men	Women	
Alabama.....	67	67	19	59	37	67	44	67	66	350
Arizona.....	14	3		12	9	11	6	12	9	38
Arkansas.....	75	52	20	50	39	75	72	75	75	241
California.....	58	11		43	22	43	25	42	30	187
Colorado.....	63	13		20	2	45	5	51	16	102
Connecticut.....	8	6		8	7	8	8	8	8	69
Delaware.....	3	3		3		3	3	3	3	22
Florida.....	67	36	27	36	30	44	29	57	36	145
Georgia.....	159	81	48	121	61	155	80	159	93	368
Idaho.....	44	3		16	27	31	37	31	30	61
Illinois.....	102	18		95	21	97	39	102	65	236
Indiana.....	92	31		79	1	91	12	91	45	228
Iowa.....	99	11		99	15	99	35	99	77	290
Kansas.....	105	39		63	15	100	27	103	48	263
Kentucky.....	120	39	19	72	24	114	29	120	50	279
Louisiana.....	64	43	13	48	24	62	52	64	62	218
Maine.....	16	3		16	15	16	15	16	16	61
Maryland.....	23	13	6	23	19	23	23	23	23	101
Massachusetts.....	14	10		11	11	11	10	11	10	100
Michigan.....	83	17		57	5	73	5	81	37	194
Minnesota.....	87	23		58	8	86	11	87	23	245
Mississippi.....	82	49	33	54	44	79	69	82	73	320
Missouri.....	114	15		50	9	114	14	114	65	257
Montana.....	56	8		23	6	40	8	46	12	81
Nebraska.....	93	8		43	2	93	14	93	24	181
Nevada.....	17			8	9	14	6	14	5	23
New Hampshire.....	10	5		10	8	10	10	10	10	63
New Jersey.....	21	7		18	11	19	15	20	17	93
New Mexico.....	31	8		21	5	24	10	31	17	79
New York.....	62	29		55	38	51	37	55	40	328
North Carolina.....	100	64	34	74	49	97	53	100	85	382
North Dakota.....	53	15		33	1	53	4	50	12	107
Ohio.....	88	10		85	15	84	22	87	50	235
Oklahoma.....	77	56	24	65	44	77	68	77	77	245
Oregon.....	36	12		28	3	34	6	36	11	98
Pennsylvania.....	67	14		63	28	65	63	66	66	226
Rhode Island.....	5			5	2	5	5	5	5	27
South Carolina.....	46	43	24	40	38	46	46	46	46	210
South Dakota.....	69	5		34	32	69	27	61	38	120
Tennessee.....	95	38	24	50	26	95	42	95	65	312
Texas.....	254	99	27	155	88	235	151	252	182	639
Utah.....	29	10		18	11	21	8	25	8	61
Vermont.....	14	9		12	7	14	11	14	14	57
Virginia.....	100	55	22	65	35	93	42	99	58	299
Washington.....	39	10		26	5	38	8	39	20	113
West Virginia.....	55	27	10	36	15	44	27	48	35	151
Wisconsin.....	71	12		48	1	65	7	67	27	202
Wyoming.....	23	6		16	5	20	7	20	7	42
Alaska.....										6
Hawaii.....	5					4	4	4	4	42
Puerto Rico.....								32	16	78
Total.....	3, 075	1, 136	350	2, 124	929	2, 857	1, 351	2, 990	1, 911	8, 875



TABLE 3.—Expenditures of funds from all sources for cooperative agricultural extension work in States, Alaska, Hawaii, and Puerto Rico for the year ended June 30, 1939, by sources of funds, and totals for 1934-38

State or Territory	Grand total	Total Federal funds	Total within the States	Funds from Federal sources				Funds from within States		
				Clarke-McNary	Smith-Lever, supplementary, and Bank-head-Jones	Capper-Ketcham	Additional cooperative	State and college	County	Farmers' organizations, etc.
Alabama	\$933, 048.30	\$666, 796.87	\$266, 251.43	\$1, 620.00	\$627, 576.26	\$37, 600.61	---	\$181, 939.10	\$84, 312.33	---
Arizona	178, 447.59	117, 007.52	61, 440.07	---	86, 263.53	22, 643.99	\$8, 100.00	28, 549.91	32, 190.46	\$699.70
Arkansas	805, 174.52	552, 972.73	252, 201.79	---	519, 354.71	33, 618.02	---	201, 317.25	50, 884.54	---
California	931, 010.85	395, 421.95	535, 588.90	1, 620.00	359, 767.04	34, 034.91	---	322, 162.20	213, 426.70	---
Colorado	354, 722.77	212, 239.38	142, 483.39	900.00	165, 665.23	24, 774.15	---	74, 465.87	68, 017.52	---
Connecticut	302, 480.98	130, 658.55	171, 822.43	1, 020.00	97, 949.33	24, 317.71	7, 371.51	113, 039.30	45, 500.00	13, 283.13
Delaware	93, 071.05	74, 832.65	18, 238.40	---	53, 766.29	21, 066.36	---	17, 489.53	748.87	---
Florida	432, 574.58	219, 435.74	213, 138.84	---	180, 480.00	26, 555.74	12, 400.00	104, 139.07	108, 999.77	---
Georgia	1, 051, 106.82	702, 415.79	348, 691.03	1, 327.50	662, 460.14	38, 628.15	---	84, 831.94	263, 859.09	---
Idaho	268, 751.95	155, 850.01	112, 901.94	1, 620.00	118, 010.19	22, 919.82	---	53, 073.69	59, 828.25	---
Illinois	1, 169, 931.83	563, 771.78	606, 160.05	1, 620.00	523, 691.00	38, 460.78	---	144, 043.68	50, 769.84	411, 346.53
Indiana	937, 745.23	443, 566.47	494, 167.76	1, 620.00	408, 596.75	33, 349.72	---	234, 053.57	219, 219.21	40, 905.98
Iowa	1, 200, 276.02	510, 108.28	690, 167.74	1, 620.00	474, 684.79	33, 803.49	---	217, 110.26	325, 331.16	147, 726.32
Kansas	969, 657.37	390, 405.49	579, 251.88	1, 020.00	357, 632.77	30, 652.72	1, 100.00	108, 226.39	337, 929.22	133, 096.27
Kentucky	861, 726.70	603, 553.18	258, 173.52	---	566, 752.21	36, 800.97	---	120, 000.00	137, 835.51	338.01
Louisiana	728, 643.10	441, 148.96	287, 494.14	1, 620.00	407, 794.50	31, 734.46	---	193, 799.14	93, 695.00	---
Maine	242, 976.32	156, 068.80	86, 907.52	---	125, 714.73	24, 404.07	5, 950.00	50, 992.42	28, 946.41	6, 968.69
Maryland	469, 593.27	196, 959.36	272, 633.91	1, 620.00	162, 562.75	26, 076.61	6, 700.00	189, 865.83	67, 211.52	15, 556.56
Massachusetts	485, 470.65	138, 855.65	346, 615.00	1, 620.00	105, 265.80	23, 839.85	8, 100.00	116, 381.01	230, 233.99	---
Michigan	814, 646.54	450, 609.16	364, 037.38	1, 620.00	414, 735.90	34, 253.26	---	220, 653.38	143, 384.00	---
Minnesota	784, 924.48	465, 480.85	319, 443.63	1, 620.00	431, 772.19	32, 088.66	---	138, 726.16	166, 475.82	14, 241.65
Mississippi	1, 014, 464.00	652, 760.29	361, 703.71	1, 620.00	615, 677.36	35, 462.93	---	104, 787.10	250, 264.11	6, 652.50
Missouri	889, 164.83	579, 039.79	310, 125.04	---	542, 658.16	36, 381.63	---	112, 992.40	148, 689.34	48, 443.30
Montana	357, 786.01	174, 599.66	183, 186.35	799.92	126, 750.09	23, 299.65	23, 750.00	52, 807.42	130, 378.93	28, 720.61
Nebraska	626, 673.99	345, 381.17	281, 292.82	1, 620.00	296, 208.06	28, 253.11	19, 300.00	137, 613.48	114, 958.73	---
Nevada	133, 392.54	73, 181.21	60, 218.33	---	40, 107.50	20, 523.71	12, 550.00	30, 319.79	29, 898.54	---
New Hampshire	233, 963.26	94, 822.53	139, 140.73	1, 620.00	66, 623.81	21, 778.72	4, 800.00	78, 515.45	60, 625.28	---
New Jersey	444, 120.02	172, 752.86	271, 367.16	1, 620.00	131, 535.82	26, 497.04	13, 100.00	98, 432.94	170, 129.73	2, 804.49
New Mexico	295, 498.21	142, 486.20	153, 012.01	---	108, 357.34	22, 928.86	11, 200.00	90, 274.22	62, 717.79	20.00
New York	1, 778, 549.12	478, 682.91	1, 299, 866.21	1, 620.00	437, 945.40	39, 117.51	---	541, 455.66	740, 014.28	18, 396.27
North Carolina	1, 250, 864.06	794, 317.00	456, 547.06	1, 620.00	750, 853.92	41, 843.08	---	110, 000.00	346, 547.06	---
North Dakota	380, 655.53	249, 212.02	131, 443.51	1, 260.00	207, 450.09	25, 251.93	15, 250.00	25, 406.82	106, 036.69	---
Ohio	1, 031, 428.37	581, 560.65	449, 867.72	1, 440.00	540, 323.63	39, 797.02	---	217, 832.62	232, 035.10	---
Oklahoma	922, 945.81	531, 272.54	391, 673.27	---	496, 703.64	34, 568.90	---	280, 949.43	110, 723.84	---
Oregon	485, 533.01	186, 961.05	298, 571.96	---	141, 966.89	24, 294.16	20, 700.00	175, 991.61	110, 628.13	11, 952.22
Pennsylvania	1, 039, 121.94	619, 030.48	420, 091.46	1, 260.00	569, 103.51	48, 666.97	---	280, 091.45	140, 000.01	---



TABLE 3.—Expenditures of funds from all sources for cooperative agricultural extension work in States, Alaska, Hawaii, and Puerto Rico for the year ended June 30, 1939, by sources of funds, and totals for 1934-38—Continued

State or Territory	Grand total	Total Federal funds	Total within the States	Funds from Federal sources				Funds from within States		
				Clarke-McNary	Smith-Lever, supplementary, and Bank-head-Jones	Capper-Ketcham	Additional cooperative	State and college	County	Farmers' organizations, etc.
Rhode Island.....	\$80,085.68	\$60,202.08	\$16,883.60	-----	\$39,720.25	\$20,481.83	-----	\$4,786.00	\$9,976.20	\$5,121.40
South Carolina.....	667,929.22	476,878.98	191,050.24	-----	444,222.61	32,656.37	-----	162,398.88	28,651.36	-----
South Dakota.....	347,853.35	259,912.11	87,941.24	-----	204,661.98	25,200.13	\$30,050.00	40,235.81	47,705.43	-----
Tennessee.....	875,468.37	609,056.19	266,412.18	\$1,620.00	571,519.39	35,916.80	-----	114,922.30	151,489.88	-----
Texas.....	1,959,086.80	1,140,316.81	818,769.99	1,620.00	1,086,906.41	51,790.40	-----	275,758.31	531,966.86	-----
Utah.....	203,090.37	122,117.50	80,972.87	1,080.00	88,051.93	22,235.57	10,750.00	43,017.62	37,955.25	-----
Vermont.....	214,134.28	114,369.46	99,764.82	1,620.00	87,070.72	22,228.74	3,450.00	50,000.00	40,443.61	11,044.82
Virginia.....	877,232.25	514,637.26	362,594.99	1,620.00	477,875.04	35,142.22	-----	216,571.99	140,748.00	9,321.21
Washington.....	350,199.37	218,624.73	131,574.64	-----	186,442.68	26,282.05	5,900.00	32,519.75	99,054.89	5,275.00
West Virginia.....	486,815.62	313,432.53	173,383.09	1,620.00	280,359.02	31,453.51	-----	139,120.46	32,079.64	2,182.99
Wisconsin.....	780,797.58	468,525.12	312,272.46	1,620.00	434,087.02	32,818.10	-----	100,556.29	204,265.22	7,450.95
Wyoming.....	199,104.94	109,877.22	89,227.72	1,260.00	66,928.54	21,438.68	20,250.00	51,751.44	37,476.28	-----
Alaska.....	27,507.75	21,418.00	6,089.75	-----	13,918.00	7,500.00	-----	6,089.75	-----	-----
Hawaii.....	146,157.11	122,532.86	23,624.25	-----	100,577.65	21,955.21	-----	23,624.25	-----	-----
Puerto Rico.....	286,643.56	139,365.33	147,278.23	1,620.00	137,745.33	-----	-----	147,278.23	-----	-----
Total, 1939.....	32,402,254.87	17,955,485.71	14,446,769.16	50,247.42	16,142,847.90	1,487,418.88	274,971.51	6,660,961.17	6,844,259.39	941,548.60
1938.....	31,592,254.41	17,443,132.48	14,149,121.93	50,104.71	15,409,218.88	1,484,920.08	498,888.81	6,526,987.68	6,695,016.07	927,118.18
1937.....	130,033,606.59	17,030,093.32	13,003,513.27	49,701.50	14,660,842.68	1,479,691.65	742,168.40	5,870,476.76	6,330,977.27	802,059.24
1936.....	228,299,905.64	16,190,624.41	12,109,281.23	48,323.51	13,502,153.16	1,479,971.78	980,467.94	5,220,032.99	5,887,700.67	1,001,547.57
1935.....	320,440,902.01	8,945,153.85	11,495,748.16	43,981.94	6,196,581.60	1,472,568.37	980,834.82	5,089,445.11	5,457,263.66	949,039.39
1934.....	419,844,167.34	9,216,781.45	10,627,385.89	44,754.27	5,994,193.65	1,446,597.52	974,127.39	4,778,604.71	5,020,594.52	828,186.66

<sup>1</sup> Includes \$97,689.09 from farmers' cooperative demonstrations funds.

<sup>2</sup> Includes \$179,708.02 from farmers' cooperative demonstrations funds.

<sup>3</sup> Includes \$251,187.12 from farmers' cooperative demonstrations funds.

<sup>4</sup> Includes \$725,094.48 from farmers' cooperative demonstrations funds and \$32,104.14 from other U. S. Department of Agriculture funds.



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